United States Patent

Inman

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[54] FLOATING MARINE MARKER

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[52] **U.S. Cl.** .....**9/8 R**

[51] **Int. Cl.**.....**B63b 21/52**

[58] **Field of Search** .....9/8, 8.3 E, 9, 8.5; 43/43.1

[56] **References Cited**

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Assistant Examiner—Douglas D. Watts
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[57] **ABSTRACT**

A floating marine marker in which a relatively thin wall surrounds a central vertical open area to permit the passage of water therethrough from rough seas. The relatively thin wall is divided into a plurality of water tight compartments which may be filled with flotation foam if desired. In the modified form of the invention the wall is formed of flotation foam coated with plastic to prevent disintegration of the wall. A flexible removable plastic spider having a central vertical bore is mounted in the top of the marker and is adapted to support a flag pole or like. A bar is embedded in the lower end of the marker for attaching anchor lines thereto. The bar has a central notch for supporting the flag pole. The marker has downwardly sloping tapered walls and may be generally rectangular in horizontal cross-section, triangular in horizontal cross-section, hexangular, circular, oval, or any other desired cross-sectional shape.

6 Claims, 8 Drawing Figures

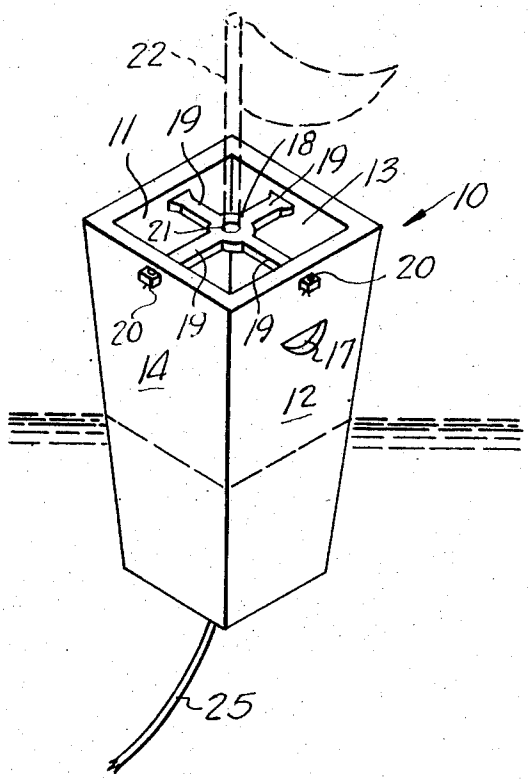


FIG. 1.

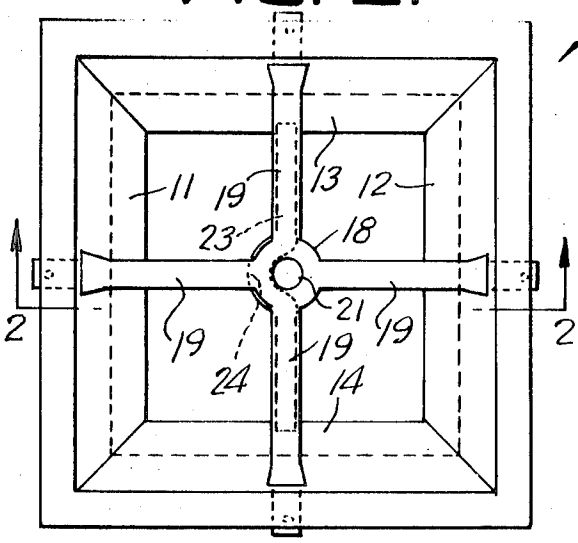


FIG. 3.

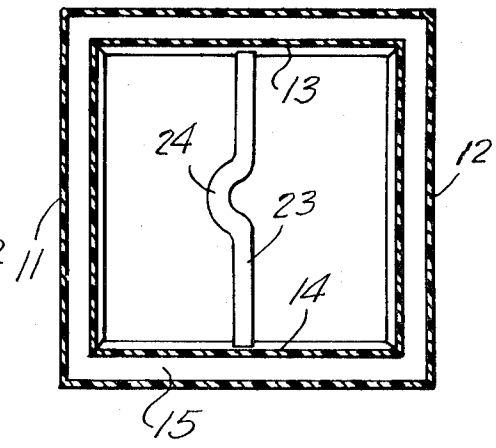


FIG. 2.

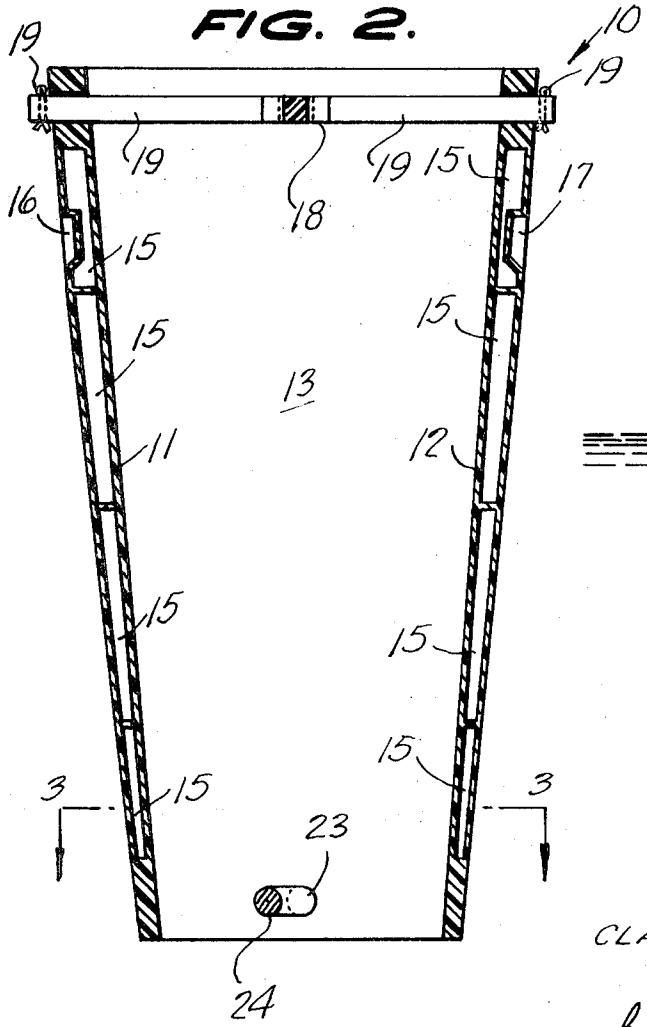
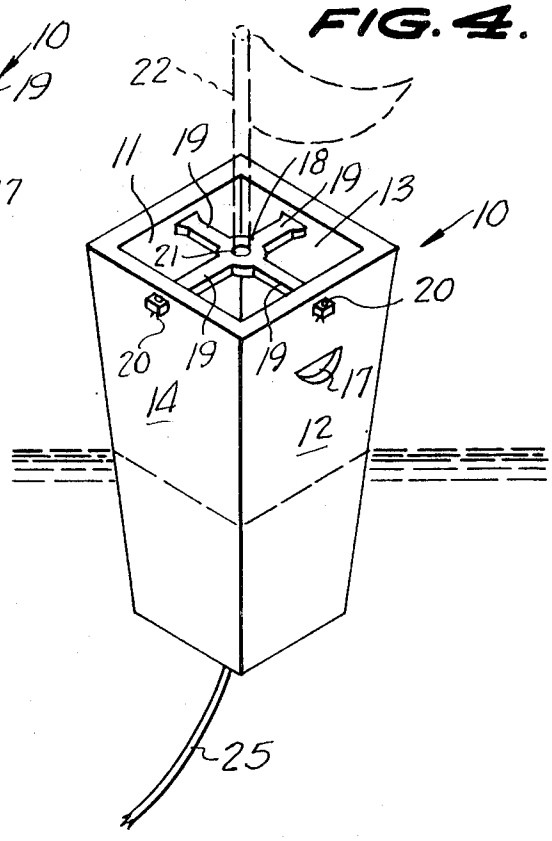
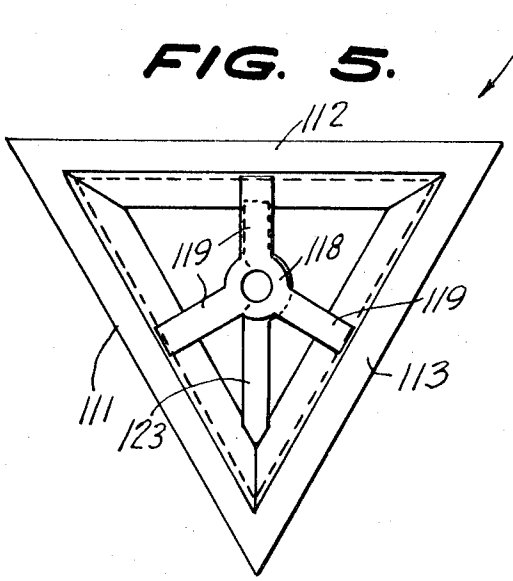


FIG. 4.



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FIG. 5.



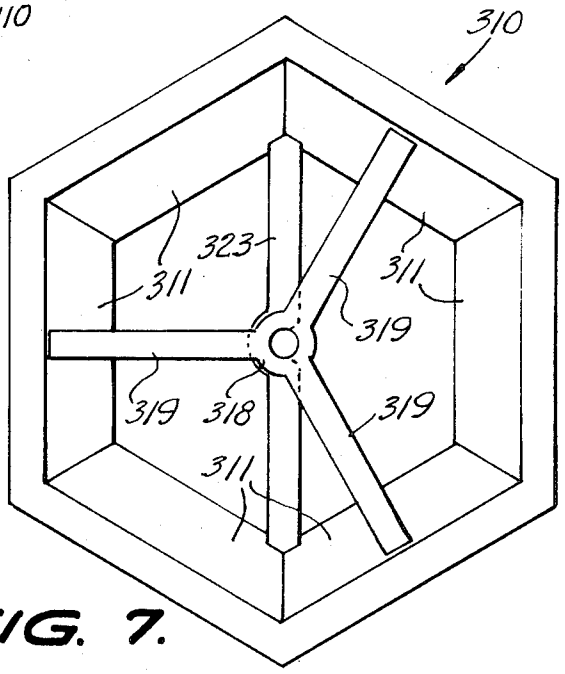


FIG. 7.

FIG. 6.

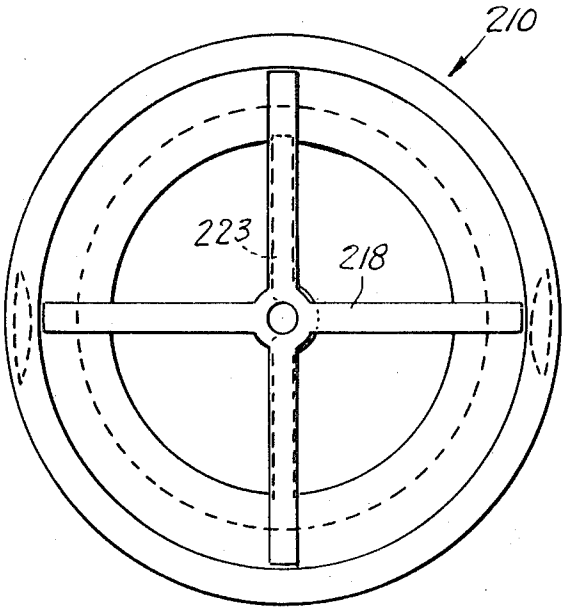
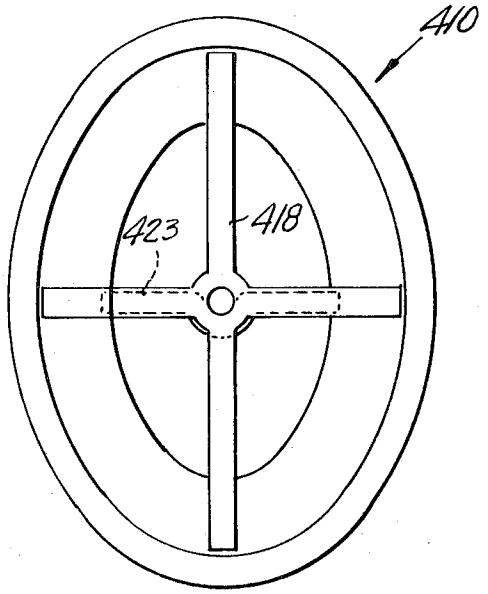


FIG. 8.



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FLOATING MARINE MARKER

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates to temporary marine markers for indicating underwater construction in areas that are navigable.

SUMMARY OF THE INVENTION

The present invention is directed to a light weight plastic floating marine marker having downwardly and inwardly sloping walls with each wall tapering from the thicker upper portion to a thinner lower portion. The walls have a plurality of air tight compartments either empty or filled with flotation foam so that the breaching of one or several compartments will not permit the marker to sink.

A flexible removeable plastic spider in the upper portion of the marker permits the markers to be nested for shipment with the spider supporting a flag pole or the like as desired. A plastic cross bar in the lower part of the marker is molded into the marker for attaching an anchor line thereto.

The primary object of the invention is to provide a floating marine marker which will not damage boats striking the same and which is open centrally to permit rough water to pass vertically therethrough, and avoid putting a sudden heavy pulling force or jerk on the marker anchor line in rough seas.

Other objects and advantages will become apparent in the following specification when considered in the light of the attached drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a top plan view of the invention;

FIG. 2 is a vertical cross-section taken along the line 2—2 of FIG. 1, looking in the direction of the arrows;

FIG. 3 is a horizontal sectional view taken along the line 3—3 of FIG. 2, looking in the direction of the arrows;

FIG. 4 is a perspective view of the invention shown in floating position in the water;

FIG. 5 is a top plan view of a modified shape of the marker;

FIG. 6 is a top plan view of another modified shape of the marker;

FIG. 7 is a top plan view of still another modified shape of the marker; and

FIG. 8 is a top plan view of still another modified shape of the marker.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings in detail wherein like reference characters indicate like parts throughout the several figures the reference numeral **10** indicates generally a floating marine marker constructed in accordance with the invention.

The marine marker **10** includes a pair of side walls **11, 12** integrally joined by a second pair of side walls **13, 14**. Each of the side walls **11, 12, 13, 14** have a plurality of water tight compartments **15** formed therein to provide flotation for the marker **10**. The water tight compartments **15** may be filled with flotation foam plastic if desired.

The side wall **11** has a hand grip **16** molded therein and the side wall **12** has a hand grip **17** moulded therein to provide for easy handling of the marker **10**.

A generally horizontal flexible plastic spider **18** has a plurality of outwardly extending arms **19** with one of the arms **19** extending through each of the walls **11, 12, 13, 14** adjacent the upper end thereof. A cotter key **20** extends through the outer end of each of the arms **19** to prevent the flexible spider **18** from being dislodged from the marker **10**. The spider **18** has a vertical central bore **21** formed therein to receive a flag pole indicated by dotted lines at **22** or a light (not shown) when desired.

A plastic bar **23** extends transversely of the lower end of the marker **10** with its outer ends molded into the lower ends of the walls **13, 14**. The bar **23** has a central offset portion **24** to receive the flag pole **22** which extends downwardly therethrough. An anchor line **25** is adapted to be connected to the bar **23** to anchor the marker **10** at any desired spot.

The shape of the marker **10** with its inwardly sloping side walls **11, 12, 13, 14** is such that the markers **10** may be readily nested for shipment with the spider **18** removed.

The marker **10** may be formed of plastic foam material instead of using the flotation compartments if such be desired. When using plastic foam walls for the marker **10** a plastic protective coating will be used to prevent disintegration of the plastic foam.

In FIG. **5** a modified form of the invention is illustrated wherein the marker is indicated generally at **110**. The marker **110** is of generally triangular horizontal cross-section formed of side walls **111, 112** and **113** joined at their side edges. The side walls **111, 112,** and **113** taper from a thinner lower portion to a thicker upper portion similarly to the side walls **11, 12, 13, 14** of the preferred form of the invention. A flexible spider **118** has three arms **119** which extend through the walls **111, 112, 113** adjacent the upper portion thereof and are secured in the same manner as the flexible spider **18** in the preferred form of the invention. A bar **123** is molded into the lower end of the marker **110** for the same purpose as the bar **23** in the preferred form of the invention.

The marker **110** is identical in use and operation to the marker **10** illustrated in FIGS. **1** through **4**.

In FIG. **6** another modified form of the invention is illustrated wherein the marker is indicated generally at **210**. The marker **210** has a circular horizontal cross-section but is otherwise identical to the marker **10** illustrated in FIG. **1**. The marker **210** has a flexible spider **218** detachably secured to the upper portion thereof in the same manner as the flexible spider **18** is secured to the marker **10**. A horizontal bar **223** is molded into the lower end of the marker **210** in the same manner that the bar **23** is molded into the marker **10**. The use and operation of the marker **210** is identical to that of the marker **10**.

In FIG. **7** another modified form of the invention is illustrated wherein the marker is indicated generally at **310**. The marker **310** is hexangular in horizontal cross-section including a plurality of identical walls **311** integrally joined together at their meeting edges. A generally horizontal flexible spider **318** has three arms **319** which extend centrally through alternate side walls **311** and are detachably secured therein in the same manner that the flexible spider **18** is secured in the marker **10**. A generally horizontal bar **323** is molded into the lower end of the marker **310** in the same manner that the bar **23** is molded into the marker **10**. The use and operation of the marker **310** is identical to that of the marker **10**.

In FIG. **8** another modified form of the invention is illustrated wherein the marker is illustrated generally at **410**. The marker **410** is identical to the marker **210** with the exception that the horizontal cross-section thereof is oval rather than circular. The marker **410** has a flexible spider **418** detachably secured near the upper portion thereof and a bar **423** embedded in the lower portion thereof in the same manner that the bar **23** is embedded in the marker **10**. The use and operation of the marker **410** is identical to that of the marker **10**.

The construction of the markers **10, 110, 210, 310** and **410** is such that when struck by a boat or other floating object the marker will give way rather then damage the boat. The open center portion of the marker **10** permits rough water to flow vertically therein to prevent putting a heavy pulling force or jerk on the marker anchor line in rough seas.

The markers will be constructed in a variety of shapes, sizes and colors so that the users can establish a code system to clearly indicate the under water conditions which may be met.

Having thus described the preferred embodiment of the invention it should be understood that numerous structural modifications and adaptations may be resorted to without departing from the spirit of the invention.

What is claimed is:

1. A floating marine marker comprising a floating plastic member having downwardly and inwardly tapering side walls and completely open centrally to permit the passage of water therethrough to avoid putting a sudden heavy pulling force or jerk on the marker anchor line in rough seas, a flexible plastic spider detachably secured to the upper end of said marker to permit said markers to be stacked upon removal of said spider, and a horizontal bar extending transversely horizontally of the lower end of said marker for attaching an anchor line.

2. A device as claimed in claim 1 wherein the side walls of said marker include a plurality of air tight flotation compartments.

3. A device as claimed in claim 2 wherein said flotation compartments are filled with flotation foam plastic.

4. A device as claimed in claim 1 wherein said flexible spider has a plurality of arms extending through the side walls of said marker adjacent the top thereof and removeable means are provided on the ends of each of said arms for preventing said arms from disengaging from said side walls.

5. A device as claimed in claim 1 wherein means are provided on said spider and said bar for detachably supporting a flag pole or light therein.

6. A device as claimed in claim 1 wherein said bar is formed of plastic.

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